

Appl. No. 10/017,413

REMARKS/ARGUMENTS**Status of Claims**

Claims 1-23 remain in the application.

Amendments to the Claims

Claims 1, 6, 17 and 21 have been amended to replace the expression "the information to the second database" with the expression "information received in response to the querying of the transmitters to the second database" to provide proper antecedent basis for the term "information".

Claim 18 has been amended to recite "means for writing the values of minimum power levels...".

35 U.S.C 112 Claim Objections

The Examiner has alleged that claims 1, 4, 9, 21, 22 and 23 do not have proper antecedents for the expression "the method". Claims 21, 22 and 23 do have proper antecedent basis for the expression "the method" in the form of the expression "a method of equalization" appearing in the second line of each respective claim.

Claims 1, 4 and 9 have been amended by replacing the expression "the method" with "a method".

The Examiner has rejected claims 1, 6, 21, 22 and 23 as the expression "calculating new values of transmitter power levels", according to the Examiner, neither clearly shows how the calculating steps are performed, nor indicates what the new values of the transmitter power levels are. The Examiner also states that the claim language does not show what parameters are used during the calculating step. Applicant submits that "calculating new values of transmitter power levels" does not appear in claim 22 as suggested by the Examiner.

Similar objections are raised against a calculating step in method claim 9 and against "means for calculating new values" in system claims 12, 15 and 18. Applicant submits the "means for calculating" does not appear in claim 15 as suggested by the Examiner.

Appl. No. 10/017,413

Applicant submits that the manner in which the step of "calculating new values" in the method claims or the "means for calculating" in the system claims operates is not a key feature of the invention. It is not the manner in which the calculation occurs that is important to the invention, but it is the method of how the network elements including the transmitters interact with each other so that the power levels of the transmitter can be appropriately set. Specifically with regard to claims 1 and 6, it is the general concept that transmitter power levels can be set to new values, which are calculated in some relevant manner following the querying of the transmitters for their minimum power levels, maximum power levels and current power levels that is important.

As described on page 9, lines 11-14 of the present application, one manner of calculating new transmitter power levels is based on using the current transmitter settings and the recommended transmitter power adjustments from PO DB 204. However, as stated on page 6, line 30 to page 7, line 5 of the present application, methods for calculating the recommended power adjustments are described in U.S. patent application Serial No. 09/667,680.

Particularly as the manner in which transmitter power levels are calculated is not relevant to the present invention, Applicant submits it would be unduly limiting to claim a specific method for calculating the transmitter power levels. Applicant respectfully requests that the Examiner reconsider and withdraw the 35 U.S.C. 112 rejection against claims 1, 6, 12, 18, 21 and 23.

In response to the Examiner's statement that the calculating step and means for calculating in the aforementioned claims do not show what parameters are used in the recited calculating, claims 1, 6, 17 and 21 have been amended by reciting that the calculating step and means for calculating are "based on the values stored in the first database and the information stored in the second database". Claim 12 has been amended by reciting that the means for calculating are "based on the values stored in the first database and the values stored in the second database". These amendments are provided to show that the calculated new values of transmitter power levels are based on the values and information stored in the first and second databases. Claims 9, 18 and 23 have been amended by reciting that the calculating step and means for calculating are "based on at least the values stored in the second database". This

Appl. No. 10/017,413

amendment is provided to show that the calculated new values of the maximum power levels of the transmitters are based on at least the values stored in the second database.

These amendments are submitted to be of a clarifying nature and are supported by the description on page 9, lines 11-14 and page 12, lines 20-22.

35 U.S.C 103 Claim Rejections

The Examiner has rejected claims 1-3, 9-14 and 18-23 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,304,347 (Beine) in view of U.S. Patent 6,115,157 (Barnard).

The Examiner has stated 'Regarding claims 1, 9, 12 and 18, as they are understood in view of the above 112 problem, Beine teaches an optic communication system (Fig. 3) having a plurality of network elements of a first type (Fig. 3, 202, 206) each having a plurality of transmitters (Fig. 3, transmitters associated with 202 and 206) each of the transmitters having a minimum power level, a maximum power level and a current power level; a network element of a second type (Fig. 3, 204 and 350) having a first database (column 8, lines 28-29, "internal memory") containing a respective plurality of values of power level adjustments (column 8, lines 28-29, "power parameters") and a second database (column 8, lines 31-32, "parameter table"), the network elements of the first type connected to the network element of the second type by optical fiber (Fig. 3, 210,212).'

Applicant submits that in the present invention the recited plurality of transmitters are part of each of the plurality of network elements of the first type. As can be seen in Figure 1 of the present application network elements 102 and 104 are network elements of the first type as recited in the claims having a plurality of transmitters, where only two transmitters 114, 116 and 134, 136 respectively are shown in each network element 102,104.

Beine does not disclose transmitters which are a part of each of network elements 202, 204, 206 or 208. The network elements in Beine are switching elements for routing optical signals that can add or drop wavelengths. The network elements 202, 204, 206 or 208 have variable optical attenuators VOAs 310 for attenuating an optical signal, optical amplifiers 314 for amplifying an optical signal and ring switch modules for routing optical signals. While the abstract and description describe "The optical network comprises a plurality of nodes having

Appl. No. 10/017,413

logic to receive and transmit optical signals over a plurality of network connections", Applicant submits that "transmitting" and "receiving" are meant in the context that signals are accepted and passed on via nodes, not that the nodes necessarily have transmitters in the context of the independent claims of the present application.

To put the present invention and the invention disclosed by Beine in context, the present invention would typically be used where signals are launched into a network, where the transmitters are used to introduce new signals to the network using transmitters 114, 116, 134 and 136 and the transmitter power levels of the transmitters can set individually in the manner described in the independent claims. Adjusting the transmitter power levels at the individual transmitter consequently adjusts the power levels at each subsequent network element in the network a proportional amount. Therefore, the adjustment of the transmitter power levels could be considered a type of global action that affects all subsequent network elements. In the invention disclosed by Beine, signals being received by switching network elements 202, 204, 206, 208 are monitored and the local power levels in the nodes can be adjusted by varying the settings of variable optical attenuators. Beine clearly is not using information recovered at each local node to adjust the power of a transmitter providing a signal to the network as recited in the claims of the present application.

With regard to claim 1, the method is recited to comprise "the steps of: reading the plurality of values of power level adjustments from the first database; querying the transmitters for their minimum power levels, maximum power levels and current power levels and writing the information to the second database; calculating new values of transmitter power levels; and setting the transmitter powers levels to the new power levels."

The transmitter power levels are set to the new calculated values of the transmitter power levels. Beine does not disclose setting transmitter power levels. At column 8, lines 18-36, which the Examiner in particular cites as disclosing features of the preamble of claims 1, 9, 12, and 18, Beine is disclosing a power management protection module to implement local power management. The Examiner equates the values of power level adjustments as recited in the independent claims to power level parameters at card interfaces within a node as disclosed by Beine. Applicant submits that the power level parameters disclosed by Beine are not power level

Appl. No. 10/017,413

adjustments as recited in the independent claims and identified on page 6, line 30 to page 7, line 5 as recommended power level adjustments for each transmitter, but are merely the values of the current power levels at the interface of the cards. Furthermore, the power management protection disclosed by Beine does not provide any mechanism wherein transmitter power levels are set as recited in claims 1, 9, 12, and 18.

The Examiner states that most of the features of claims 1, 9, 12 and 18 can be found in Beine; however Beine does not specifically teach querying the transmitters for their minimum, maximum and current power levels. The Examiner states that Barnard teaches to query maximum, minimum and current power levels and writing the information to a second database at column 9, lines 23-28. The Examiner suggests that "the minimum power level is the level that "channel fails" ". While this statement in itself may be accurate, in the particular location in the reference pointed to by the Examiner, has nothing to do with querying the transmitters for their minimum power level, maximum power level, and current power level. Barnard is disclosing a voltage controlled attenuator VOA 21 that is being controlled to attenuate signal passing through the network. There is no suggestion that the network monitoring unit is querying the transmitters.

It is suggested by the Examiner that it would have been obvious to combine the querying of maximum, minimum and current power levels as taught by Barnard with the system as taught by Beine in order to make the information available on demand for adjusting power values of transmitters, and for system information inquiry by a system manager.

While Barnard may be considered to disclose transmitters in a network element of a first type, there is no suggestion or disclosure in Barnard of a network element of a second type having first and second databases as recited in the independent claims or of method steps such as: reading the plurality of values of power level adjustments from the first database, querying the transmitters for their minimum power levels, maximum power levels and current power levels and writing the information to the second database; calculating new values of transmitter power levels that are a function of values stored in the first and second databases, and setting the transmitter powers levels to the new power levels.

Separately, neither Beine nor Barnard discloses or suggests all the features in independent claims 1, 9, 12 and 18. The combination of Beine and Barnard also does not disclose all of the

Appl. No. 10/017,413

features recited in independent claims 1, 9, 12 and 18 as described above, in particular querying the transmitters for their minimum, maximum and current power levels. It is submitted that the Examiner has not satisfied at least one criterion of the three criteria for establishing a prima facie case of obviousness, namely that all of the features are disclosed by the cited references.

Furthermore, Applicant submits that the remaining two criteria of the three criteria required for establishing a case of prima facie obviousness have not been met, namely that there is a motivation to combine the references and that there be a reasonable expectation of success. Beine does not suggest or describe a plurality of transmitters in a network element of a first type and more importantly does not suggest or disclose setting the powers levels of transmitters as Beine is describing an optical power management system local to network element. Barnard teaches a method for equalizing wavelength division multiplexing systems in which transmitters are set based on bit error rate thresholds. Applicant submits that there is no suggestion in the references for combining the references to arrive at any type of system resembling that claimed in the present application. As the inventions of the cited references deal with different aspects of power management, local to a network element in the case of Beine and more globally to an entire network in the case of Barnard, Applicant submits there would be no motivation as suggested by the Examiner to combine particular features of the cited references. Nor would one expect success in the resulting combination of references without at least some inventive ingenuity in figuring out how the various features would be used together.

It is respectfully requested that the Examiner withdraw the obviousness rejection of independent claims 1, 9, 12 and 18.

Claims 2, 3, 10, 11, 13, 14, 19 and 20 are dependent upon independent claims 1, 9, 12 and 18. For the same reasons as described above with respect to the independent claims, it is submitted that the Examiner has not satisfied a prima facie case of obviousness with regard to claims 2, 3, 10, 11, 13, 14, 19 and 20. It is respectfully requested that the Examiner reconsider and withdraw the obviousness objection to the identified claims.

Claims 21-23 are "computer-readable media" claims directed to the methods of claims 1, 4, and 9, respectively. The Examiner states that although Beine nor Barnard specifically use the term "computer-readable media embodying a program", both references disclose flow charts

Appl. No. 10/017,413

which inherently are carried out by computer-readable media embodying programs.

Applicant submits that for the same reasons described above regarding independent claims 1 and 9 the Examiner has not established a prima facie case of obviousness and therefore claims 21-23 are also allowable.

The Examiner has rejected claims 4-5 and 15-16 under 35 U.S.C. 103(a) as being unpatentable over Beine in view of U.S. Patent No. 6,684,030 (Taylor).

The Examiner raises similar objections to claims 4 and 15 that were raised with regard to independent claims 1, 9, 12, and 18 above, in particular the allegation that Beine discloses "a plurality of network elements of a first type each having a plurality of transmitters".

The Examiner states that most of the features of claims 4 and 15 can be found in Beine; however Beine does not specifically teach a user interface and displaying the values of the current power levels, previous power levels and power level adjustments of the transmitters on the user interface. The Examiner states that Taylor teaches these features at column 5, lines 7-35. It is suggested by the Examiner that it would have been obvious to connect a user interface and display power levels of the transmitter on the user interface as taught by Taylor, to the system as taught by Beine in order to make it easy for system management personnel to interact with the communication system and adjust the parameters of the system.

As described above, Beine does not suggest or disclose a plurality of transmitters in a network element of a first type as recited in claims 4 and 15.

Furthermore, it is submitted that as Beine does not have a plurality of transmitters in a network element of a first type, Beine does not suggest or disclose the other features of the claims, namely "reading the values of current power levels, previous power levels and power level adjustment of the transmitters from the database" or "displaying the values of current power levels, previous power levels and power level adjustment of the transmitters on the user database" in method claim 4 or similar "means for reading" and "means for displaying" in system claim 15.

Taylor does not suggest or disclose a plurality of transmitters in a network element of a first type as recited in claims 4 and 15.

Appl. No. 10/017,413

Neither Beine nor Taylor discloses or suggests all the features in claims 4 and 15, either alone or in combination. It is submitted that the Examiner has not satisfied a prima facie case of obviousness for similar reasons as described above with regard to claims 1, 9, 12, and 18. It is respectfully requested that the Examiner withdraw the obviousness rejection of the identified claims.

Claims 5 and 16 are dependent upon claims 4 and 15. For the same reasons as described above with respect to claims 5 and 16, it is submitted that the Examiner has not satisfied a prima facie case of obviousness. It is respectfully requested that the Examiner reconsider and withdraw the obviousness objection to the identified claims.

The Examiner has rejected claims 6-8 and 17 under 35 U.S.C. 103(a) as being unpatentable over Beine in view of Taylor and further in view of Barnard.

Claims 6-8 and 17 are indirectly dependent upon independent claims 4 and 15. Neither Beine, Taylor, nor Barnard discloses or suggests all the features in claims 4 and 15 either alone or in combination. For similar reasons as described above with respect to claims 4 and 15, it is submitted that the Examiner has not satisfied a prima facie case of obviousness. It is respectfully requested that the Examiner reconsider and withdraw the obviousness objection to the identified claims.

It is respectfully requested that the Examiner withdraw the obviousness rejection to the identified claims.

In view of the forgoing, early favorable consideration of this application is earnestly solicited.

Respectfully submitted,

SMART & BIGGAR

By 

James McGraw
Reg. No. 28,168
Tel.: (613) 232-2486

Date: April 20, 2005
JMc:MSS:nea